Daily Eagle

A CAST-STEEL TERROR.

The Thurlow High-Powered Cast-Steel Gun Lately Tested at Annapolis.

The Thurlow cast-steel gun was built by the Standard Steel Casting Company, of Thurlow, Pa., for the purpose of demonstrating the practicability of making high-powered rifle guns of large caliber of cast steel.

About a year ago, says the Chicago Tribune, Congress appropriated a considerable sum for the manufacture and test of cast-steel guns.

This gun was tested February 7 at Annapolis. The test consisted in firing ten rounds of full charge as rapidly as the gun could be loaded and discharged.

The result was entirely satisfactory, ten rounds having been fired without the slightest accident, and as far as can be seen by the inspections which have been made the gun has stood the test almost as well as the high-powered steel guns built by the navy.

The gun was gauged before and after the trial. This revealed the fact that it had been enlarged slightly just in advance of the seat of the projectile.

The amount of this enlargement was about one-seven-thousandth of an inch in its greatest part.

This is not sufficient to render the gun unserviceable, and is but little, if any, greater than would occur in a built-up steel gun. It shows, however, that the elastic strength of the gun had been about reached.

The gun was cast last summer of open hearth steel and afterward annealed.

The turning and finishing was done at the Washington gun foundry under the direction of the navy, and was in all respects similar to the six-inch guns built by the Navy Department.

The general dimensions of the gun are as follows: Length, sixteen and one-half feet; diameter of the bore, six inches; weight, 13,120 pounds.

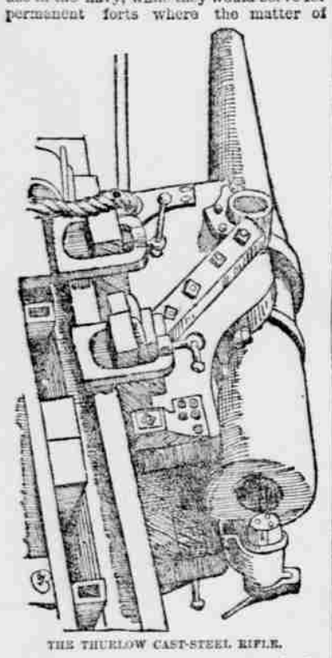
The charges used for testing it were 100-pound projectiles and fifty pounds of powder. This loading gives a velocity of the shot on leaving the muzzle of the gun of 2,000 feet a second.

The pressure developed by this loading would be equal to fifteen tons on every square inch of the chamber. This pressure the gun seems to have successfully stood.

With the greatest elevation that the gun carriage will admit of the range of the piece will be about six miles.

As compared with the high-powered steel hoop guns—which are built of a tube running the length of the gun and supported on the outside by shrinking on two or more layers of steel hoops—it may be said that this gun is heavier in weight by a ton.

While it is of not so expensive a construction as the built-up guns now in service in the navy, it is, on the other hand, not so strong. And the extra ton necessary to secure the strength that the Thurlow gun has would add materially to the weight of a battery, were cast-steel guns ever adopted for use in the navy, while they would serve for permanent forts where the matter of



THE THURLOW CAST-STEEL RIFLE.

weight was not so important as it is in the armament of a naval vessel.

The test of the Thurlow gun was that required by the statute. Owing to the fact that the gun was covered on the side and top by heavy timbers for the protection of the people on the ground and to retain the fragments in case of bursting, it was impossible to fire it as rapidly as would have been done in open field.

Ten rounds were fired in nineteen minutes and eight seconds, or about seven minutes longer than is naturally required for firing a like number of rounds from a navy gun mounted on a navy carriage.

This difference was, however, slightly in favor of the gun, as it did not heat so fast.

The founders of the Pittsburgh gun, which failed so signally, are about to undertake the construction of a second gun built exactly like their first, but the process of annealing is to be more carefully done, as they attribute the failure of their gun to the want of sufficient annealing.

This process in all constructions of steel that are to receive a violent shock is absolutely indispensable to relieve the strains which are set up in the metal as it cools in the mold.

The Adventures of Dick NN.

"David Copperfield" was an "Uncommercial Traveler;" he was also a "Dickens." One day he concluded to take a trip to "Mugby Junction" and make a stay at "Mrs. Lirriper's Lodgings."

It was "Hard Times," so David pilfered "Somebody's Luggage," which he opened with "Great Expectations." It contained "Pictures from Italy," "Picnic Papers," "Pickwick Papers" and the "Mudfog Papers." These he thought to sell at "The Old Curiosity Shop," owned by "Dombey & Son," but "The Three Detectives" were already at the shop, so David was taken to "Bleak House" and the luggage returned to the owner, "Barnaby Rudge," one of the "Two Idle Apprentices."

David was confined in a cell with "Oliver Twist," "The Haunted Man," connected with "The Mystery of Edwin Drood."

He told David "A Tale of Two Cities" and sang "A Christmas Carol." "Master Humphrey's Clock" had struck the hour of twelve, and "The Chimes" were ringing in the new year when David was released from prison. He resolved to begin "The Battle of Life" anew, for he found there was "No Thoroughfare" for one who leads a roving life.

He went into business with "Martin Chuzzlewit" and "Our Mutual Friend," "Nicholas Nickleby."

I met him last June at a picnic on "Tom Tiddler's Ground." He told me of his marriage with "Little Dorritt." (You will find the romance in any "Sketches of Young Couples.") "The Cricket on the Hearth" at his home is a merry one.—N. Y. World.

LIFE AT HARVARD.

A Bufalonian Tells How His Time Is Spent in College.

Counting undergraduates and special students together, there are 1,140 young men between the ages of seventeen and twenty-four now residing at Harvard College. The writer enjoyed an interview with one of the Buffalo boys, who was at home for a brief recess, a short time ago. "You will understand," he said, "that I am neither a 'grind' nor a loafer, but an average student, and the vast majority of them live just about as I do. A picture of my college day is about as follows: I turn out anywhere between 7:40 and 8 in the morning, and go over to Memorial to breakfast at 8 or 8:30—sometimes earlier than that, so as to go to chapel. Prayers come at 8:45, and are well attended, though we don't have to go unless we choose. After this recitations and lectures take up nearly the whole forenoon, and I have one in the afternoon three times a week. On four days of the week I have three recitations, on the others two. Other men have them differently, according to the electives they take. My studies are over for the day at 3 p. m., and they occupy, all told, about seven hours a day.

"I'm interested in athletics, and my afternoon from 3 to 5:30 is spent in the gymnasium, or in out-door athletics in the season for them. Part of our training, in suitable weather, consists of a run of two miles, to Porter's station and back. The gymnasium is always crowded, and you get pretty well heated up by your exercise, whatever it is. Then, after a cold shower and a brisk rubbing, you feel like a king, and don't you just sleep nights, though! I find that my athletic training helps my studies greatly. Dinner comes at six, and I generally study evenings, though not always. I've been to the theater some eight or nine times this term, but I don't like to go to Boston much. It takes too long and you have to be up late, which won't do when you are in training.

"Many people have an idea that you can let your studies go and loaf, or worse, until two or three weeks before the examinations, and then cram up. This is utter nonsense. It is simply impossible to keep up with your class in that way, unless, indeed, you can spend $100 or $150 for private tutors, and even then you wouldn't be safe. As for cutting recitations, if you made a practice of doing it oftener than twice a week you'd be investigated, sure as fate—and that is not at all pleasant.

"On Sundays I go to church somewhere—sometimes to Boston to hear Phillips Brooks, sometimes to the college chapel, sometimes elsewhere. There are usually 400 or 500 at morning prayers, and more than that at the Sunday evening service, though you don't have to go to either unless you want to."—Buffalo Express.

"PISA THE DEAD."

A Place with a Once Fine Harbor Now Seven Miles from the Sea.

Pisa, in Italy, famous for its leaning tower, is called "Pisa la Morte" by the Italians; its commerce, once splendid, has been gradually taken from it by Leghorn, and it has declined in population and importance until it is little more than a place of resort for travelers from all over the world, who come to study its splendid architectural monuments of the middle ages and enjoy its delightful climate.

The prosperity of Pisa has, indeed, received so great a blow that the city is in a state of bankruptcy. The Italian public was lately shocked by a statement that the town house or city hall of Pisa was likely to be levied upon by the city's creditors to satisfy their debt.

More lately still came the news of another and still even more startling suggestion. One of the members of the municipal council of Pisa proposed a lottery to raise funds to discharge the debt, and, in order to offer a sufficient tempting prize to attract investments from all over the world, he suggested that the famous leaning tower should be the first prize. To possess as one's private property the leaning tower of Pisa, which has stood for more than seven hundred years, would, this Pisan councilor thought, be a distinction which all the world would seek after. He did not indicate what he supposed the owner of the tower could do with it.

Fortunately, this original project did not meet with favor from the Pisan council, and some other way must be found to meet the city's difficulty. Pisa is still the center of a rich farming district, and its university is one of the best in Italy.

The decline of Pisa is largely due to a singular circumstance. In mediæval times it possessed a fine harbor, Porto Pisano, at the mouth of the River Arno. With the cutting away of the forests upon the Apennines vast quantities of earth no longer held in place by the protecting trees, were washed to the plains below.

This wash gradually filled up the harbor of Pisa. In 1442 its depth had been reduced to four feet; a century later only row-boats could enter it; it was soon abandoned forever. There are now no traces of this old harbor and even its site is disputed. Pisa's distance from the sea is now about seven miles.—Cor. Chicago Mail.